REMARKS/ARGUMENTS

Restriction Requirement and Election

Applicant confirms its provisional election to prosecute the invention of Group I and the species of figures 1-22, claims 1-15, 22-28 and 34. Claims 16-21, 29-33 and 35-43 are withdrawn.

Also, Claims 5, 26 and 34 have been cancelled without prejudice.

Claims 1, 4, 6, 7, 8, 9, 11, 13, 24, 25 and 27 have been amended.

Claim 1 is amended to make minor corrections in wording.

Claim 4 is amended to delete the phrase "wherein the lock has a rest configuration", since the other limitations in the claim do not describe the lock in its reset configuration, as provided in para. [0162].

Claim 6 is amended to add that the change members are moveable from the first position and second position solely in response to inserting of the second key into the first passage, and rotation of the plug by operation of the second key, and to provide that the second passage intersects a portion of the second position in the plug. Support is found at paragraph 0123 and 0140.

Claim 7 is amended to provide for at least two change members and at least three user keys; to provide that the two change members are moveable to their second positions solely in response to insertion of one of the second (or third) user key and rotation of the plug by the operable key; and to provide respective operation of the lock by the first, second and third keys depending upon the configuration of the change balls in their first or second positions. Support is found at paragraph 0139.

Claim 8 is amended to change dependency.

Claim 9 is amended to delete unnecessary limitations.

Claim 11 is amended to provide that the change member is movable to the second position only when the change tool is not in the second passage. Support is found at Fig. 11A and 11B and paragraph 0140.

Claim 24 is amended to require at least two change members, and at least three user keys, and that the change members move from the first positions to the second positions solely in response to rotation of the plug with the inserted key. Support is found at paragraph 0139.

Method Claim 24 is amended to provide for at least a first and second change member, and at least a first, second and third user key in the subset of keys, and to provide for movement of the first and second change members respectively to their second positions solely in response to rotation of the plug by the respective second and third user keys. Support is found at paragraph 0139.

Claim 25 is amended to provide that the second passage intersects a plurality of retainer cavities,

Claim 27 is amended to further provide the step of positioning the change tool in the second passage.

New claims 44 - 67 have been added.

New claims 44 through 54 all depend through to Claim 1. Support for the claims are found as follows: for Claim 44 at paragraph 0196; for Claim 45 at paragraph 0041 and in Figs. 12A and 12B; for Claim 46 at paragraph 0162; for Claim 47 at paragraph 0163; for Claim 48 at paragraph 0163 and Figs. 11A and 11B; for Claim 49 at paragraph 0162 through 0165 and in Figs. 11A, 11B, 17A and 19A; for Claim 50 at paragraph 0174; for Claim 51 at paragraph 0162, fourth sentence; for Claim 52 at paragraph 0162; for Claim 53 at paragraph 0158 and 0196; and for Claim 54 at paragraph 0159.

New claims 55 through 59 all depend through to Claim 6. Support for The claims are found as follow: for Claim 55 at paragraph 0170; for Claim 56 at paragraph 0135; for Claim 57 at paragraph 0196; for Claim 58 at paragraph 0122; and for Claim 59 at paragraph 0122.

New independent Claim 60 is based generally on Claim 1, and includes the elements that distinguish the prior art and is believed patentable over the prior art. New claims 61 through 67 all depend through to Claim 60, and therefore are believed patentable over the prior art. Support for Claim 60 is found in Claim 1 and at paragraph 0141. Support for claims are found as follows: for Claim 61 at paragraph 0196; for Claims 62 at paragraph 0041 and in Figs. 12A and 12B; for Claim 63 at paragraphs 0162 through 0163 and in Figs 11A, 11B, 17A and 19A; for Claim 64 at paragraph 0162, fourth sentence; for Claim 65 at paragraph 0162; for Claim 66 at paragraphs 0158 and 0196; and for Claim 67 at paragraph 0159.

Claims 1-4, 6-15, 22-25, 27-28, 34, and 44-67 are presently in the application.

Objection to the Drawings under 37 CFR 1.83(a)

The examiner had objected to the drawings because the "instructions" and "means for securing" in paragraphs d and e of claim 5 are not shown in any of the figures of the drawings.

Applicant has cancelled Claim 5 without prejudice, rendering this objection as moot.

Rejection of Claims 6-15, 22, 24-28 and 34 under 102(b) by Monahan

The examiner has rejected Claims 6-15, 22, 24-28 and 34 as being anticipated by Monahan. The Examiner states that Monahan teaches all of the claimed elements of the articles and steps of the methods as claimed.

Applicant's amended independent Claims 6 and 7 each provide that the subset of keys comprises user keys, and that the change member(s) move to the second position solely in response to insertion of the second user key into the first passage and rotation of the plug by the operation of the second user key. Amended Claim 6 also requires that the second passage intersect a portion of the second position of the change member in the plug.

Monahan states that reconfiguration of his lock to operate with a second user key requires the insertion and rotation of the master key in the keyway, which is the only key in Monahan that can move all of the master pins 47 out of the plug holes 41 and above the shear line (see Fig. 5 of Monahan). Furthermore, Monahan also requires the insertion of a specific set blade into the change slot in order to configure the lock for operation with a corresponding specific user key. The Monohan set blade is configured to provide spaces into which the master pin(s) must reside when disposed within the blind hole(s). By contrast, Applicant's amended Claims 6 and 7 provide for reconfiguration of the lock to operate with a second user key, solely in response to insertion of the second user key and rotation of the plug therewith, without requiring a change tool.

Dependent Claim 23 further requires that the shim have a diameter greater than the diameter of the retainer cavity. In contrast, the Monahan disclosures teaches that all master pins have a diameter less than that of the blind hole.

In view of the amendments made to Claims 6 and 7 and the arguments presented here, Applicant requests allowance of these claims, and existing claims 8-15 and 22-23, and new claims 55-59 that depend therefrom.

Method claim 24 requires that the steps of reconfiguring the lock that initially operates with a first user key, to operate with a second user key and a third user key, in succession, solely

by rotating the plug, with the selected user key inserted therein, to move change members from a first position to a second position, and thereby rendering the former user key inoperable. As stated above, Monahan requires the use and insertion of a set blade to reconfigure the lock.

In view of the amendments made to Claim 24 and the arguments presented here, Applicant requests allowance of this claim, and existing claims 25, 27 and 28 that depend therefrom.

Applicant has cancelled claim 34 without prejudice, thereby rendering its rejection moot.

Rejection of Claims 1-4 Under 103 over Monahan in view of Check

The examiner has rejected Claims 1 - 4 as being obvious over Monahan in view of Check. The examiner states that "any shape of change member would function just as well to re-key the lock (of Monahan)".

Applicant respectfully traverses the rejection.

Monahan teaches a programmable lock that can be reprogrammed to operate with a differently-bitted change key only by employing a complementary differently-bitted set blade that holds the appropriate number of master pins within the appropriate blind holes, to match the configuration of the selected change key. These master pins reside in the lock during operation, either within the blind holes atop the top edge 77 of the set blade, or within the pinway. In accordance with the figures of Monahan, the Applicant states that the blind holes 50 appear to be the same diameter as the pinways 40 and 41, and that the master pins 47 and the drivers 44 appear to be of equal size to fit within both the blind holes 50 and pinways. Applicant notes that Monahan requires that the set blade reside in the change slot during the operation of the lock. One set blade is removed from the change slot to initiate the lock configuration change, and a new set blade is then inserted to set the new lock configuration. Once inserted, the set blade remains within the lock to hold the "inactive" master pins in the proper position in the blind holes during operation, where the tops of the master pins 47 are aligned flush with the shear line. This is important in Monahan because the drive pins 44 pass over the top of the blind holes during lock operation, and would otherwise be presumed to fall down into the blind holes 50 if there were space available at the top of the blind hole, which would cause the lock to jam.

Check describes a construction lock wherein a single ball is caused to irreversibly move from within the tumbler chamber of one contour position into a blind hole. The one-time change from a construction key to a user key is effected by use of the user key.

1. Not a proper prima facie rejection.

The Applicant asserts that the Examiner has not and can not point to any description in either Monahan or Check that suggests combining the teaching of these references. Monahan teaches a lock that requires a changing tool (set blade) to move disc-shaped change members back and forth between a blind hole and the pinway to change the configuration of the lock.

On the other hand, Check teaches an irreversible movement of a ball from one pinway into one blind hole by use of the user key. Applicant asserts that a person of ordinary skill would not consider to combine these references, independent of having seen Applicant's invention.

Furthermore, the master pins of Monahan appear to fit fully within the blind hole and pinway. Monahan teaches that two master pins can be stacked and moved within each blind hole, to increase the capacity of the lock. Monahan chose to use master pins with low profiles in order to reduce the stack height in the blind hole, so that a plurality of layers of master pins could be used. Also, it appears that Monahan selected the diameter of the master pins to fit precisely and fully within the blind holes and the pinways, without excessive room or "play". The flattened top surface of the Monahan master pins 47 also provides the flat surface for the drivers 44 to rest upon and pass over as the plug is rotated within the housing. The Examiner suggests that the master pins could obviously be replaced with spherical members; however, Applicant contends that person of ordinary skill could not predict with certainty the effect on performance of the Monahan lock if the flattened master pins were replaced with round balls. Applicant believes that the size and shape of the master pins were purposely selected by Monahan to achieve the purposes of this lock, and that the examiner's contention that "any shape of change member would function just as well to re-key the lock (of Monahan)" has no basis and would seems contrary to Monahan's intent and his specific design of the lock. Consequently, Applicant contends that there is no motivation within either Monohan or Check for a person of ordinary skill to replace a flattened, disc-like master pin in the lock of Monahan with a round ball of Check.

Applicant suggests that combining of these two references has been motivated by Applicant's own inventions embodies in Claim 1, which employs spherical balls as change members and a change tool blade to move the change members out of their respective change cavities. The Examiner has perhaps impermissibly combined these art based on hindsight after viewing Applicant's invention.

2. Combined References can not anticipate Applicant's invention.

For argument sake, even if the Monahan and Check references are combined, Applicant contends that the combined disclosure would not anticipate Applicant's invention as presented in Claims 1-4.

The Examiner suggests replacing the master pins 47 of Monahan with the ball 18 of Check. Even so, this replacement does not anticipate Applicant's claims. The combined Monahan/Check lock would still provide for movement of the "master balls" between the pin chambers and the blind hole only by use of a master key and by inserting of a complementary set blade associated with a selected differently-bitted change key. Operation of the Monahan lock would still require that the set blade remain within the change slot during operation of the lock, and that the "inactive" master balls be disposed upon the set blade within the blind holes.

The change tool of Applicant's invention is configured to move the plurality of change balls from the second position within the retainer cavity upon insertion of the change tool into the change tool slot (last line of claim 1), in order to reconfigure the lock. To the contrary, the Monahan set blade (the alleged "change tool"), while positioned within the change slot, purposely permits the alleged "change balls" to remain in the blind holes (the alleged "retainer cavities") in order to reconfigure the lock.

Furthermore, with Applicant's change tool inserted into and remaining in the change slot, any user key can operate the lock. This is illustrated in Figures 17A and 17B, where user key 30a can operate the lock, and Figures 18A, 18B, 19A and 19B, where user key 62a can operate the lock. While the change tool is in the change slot, the lock can not be configured to any specific user key because none of the change balls can be disposed in their second position. Thus, any key can operate the lock while the change tool is disposed in the change slot. These inherent features of the lock of Claim 1 are specifically embodied in Claim 2, 3 and 4. To the

contrary, the Monahan set blade must be in the change slot in order to reconfigure, and subsequently to operate, the lock for operation with one specific user key.

In view of the arguments presented here, Applicant's traverse the obviousness rejection of Claims 1-4 in view of Monahan, and request allowance of these claims, and new claims 44-54 depending thereto.

Rejection of Claim 5 Under 103(a) by Monahan in view of Check and Paig

The examiner has rejected Claim 5 as being obvious over Monahan in view of Check and Paig. The rejection is rendered moot in view of the cancellation of Claim 5 by Applicant, without prejudice.

Rejection of Claim 23 Under 103(a) by Monahan in view of Smith

The examiner has rejected Claim 23 as being obvious over Monahan in view of Smith. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a larger diameter shim with a retainer cavity of Monahan, in view of the teaching of Smith.

Claim 23 is believed patentable as depending from Claim 6, 8, 11 and 22, any one of which is believed patentable. Applicant thus assert that this rejection be reconsidered in view of the amendments and arguments made herein.

Respectfully submitted,

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Amendments to the Drawings:

Drawings sheets 10, 13 and 45 have been corrected. Existing sheets with the corrections shown in red, and new replacement sheets 10, 13 and 45, are provided.

Fig. 10B has been corrected to show that the driver pin 20 in pin chamber 23 spans across the shear line 38, as shown in Fig. 10A and as described in the disclosure at para. 0154.

Fig. 13D has been corrected to change the key reference number "84" to -- 86 --, as described in para. 0139.

Fig. 44A has been corrected to replace reference number "220" in the upper left corner to -- 226 --, since a different element has already been assigned number 220. (A similar correction is made in the description in para. 228.)

Fig. 44B has been corrected to add lead line and reference number 216.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

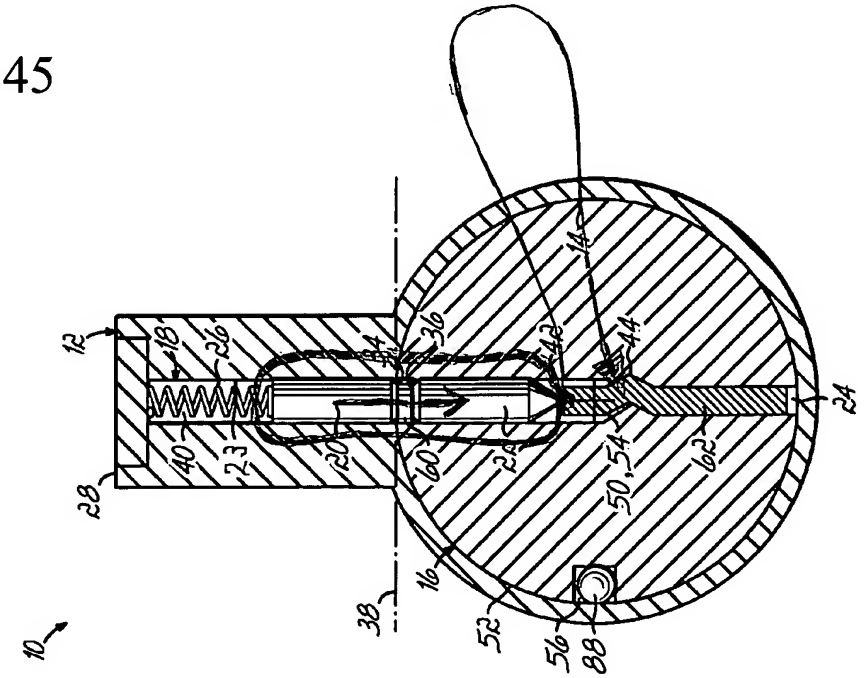

FIG. 10B

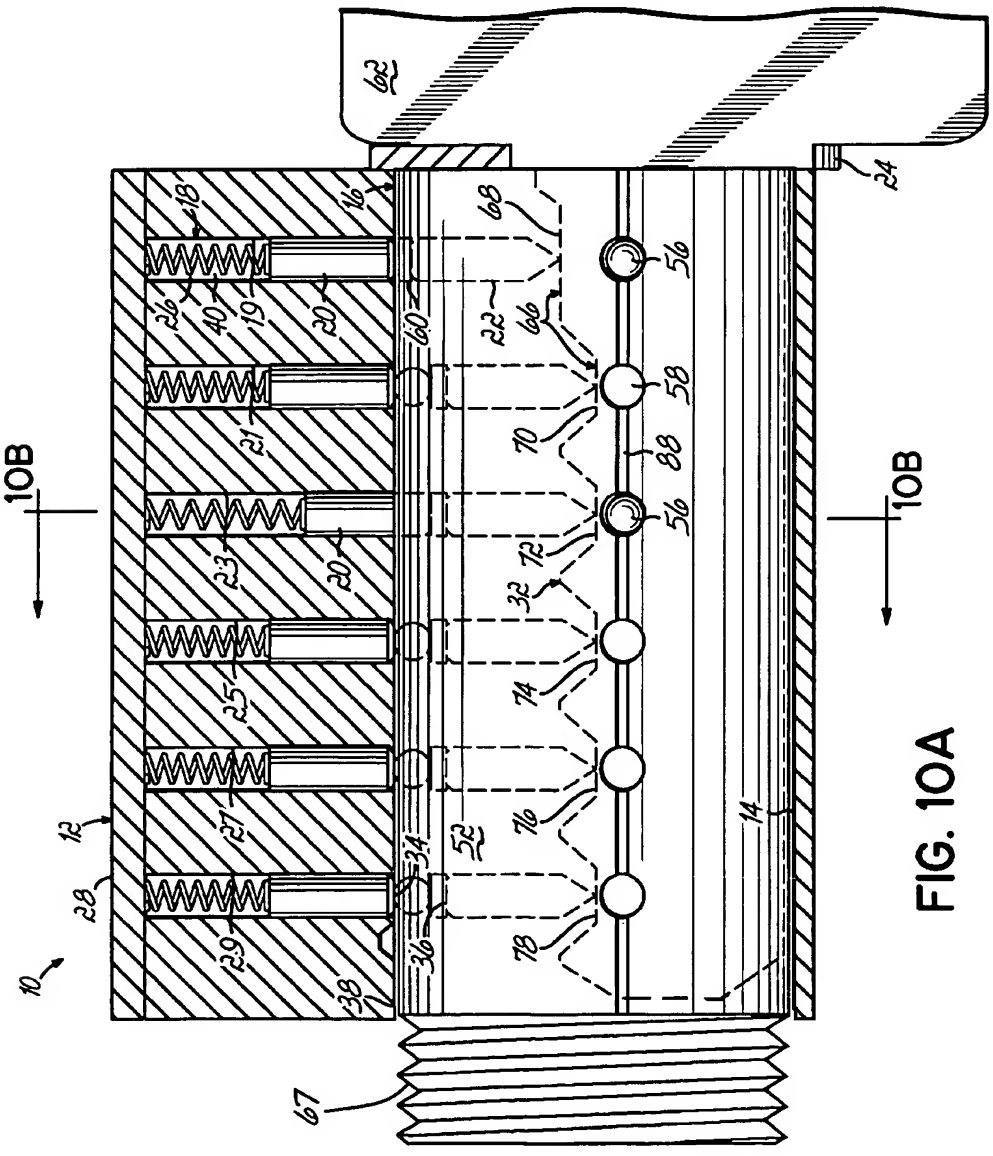

FIG. 10A

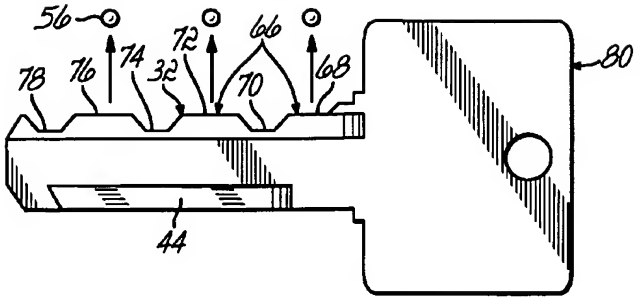

FIG. 13A

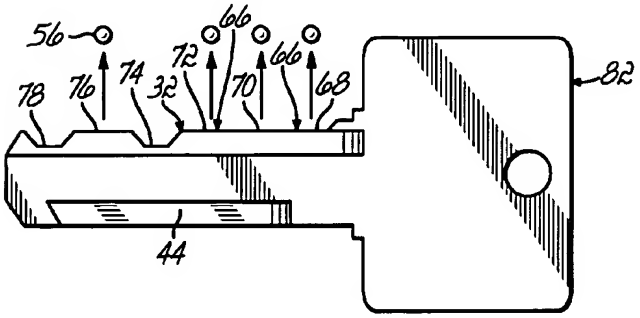

FIG. 13B

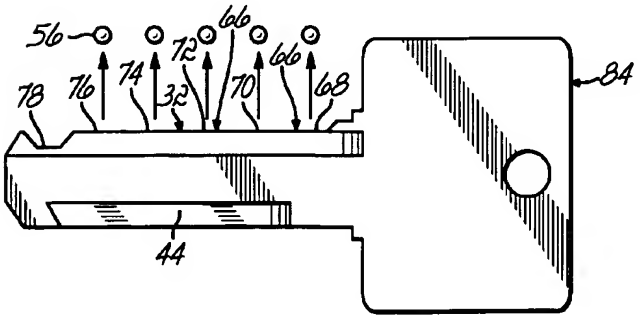

FIG. 13C

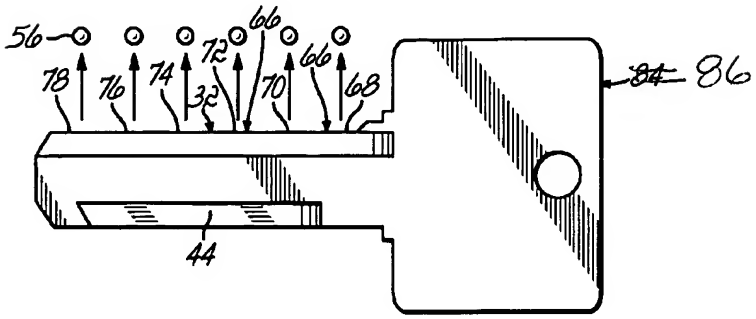

FIG. 13D

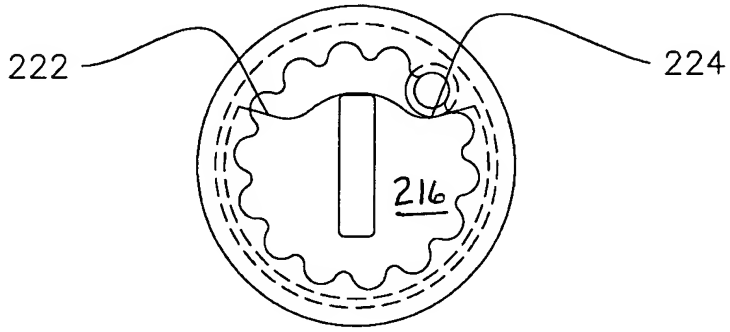

FIG. 44B

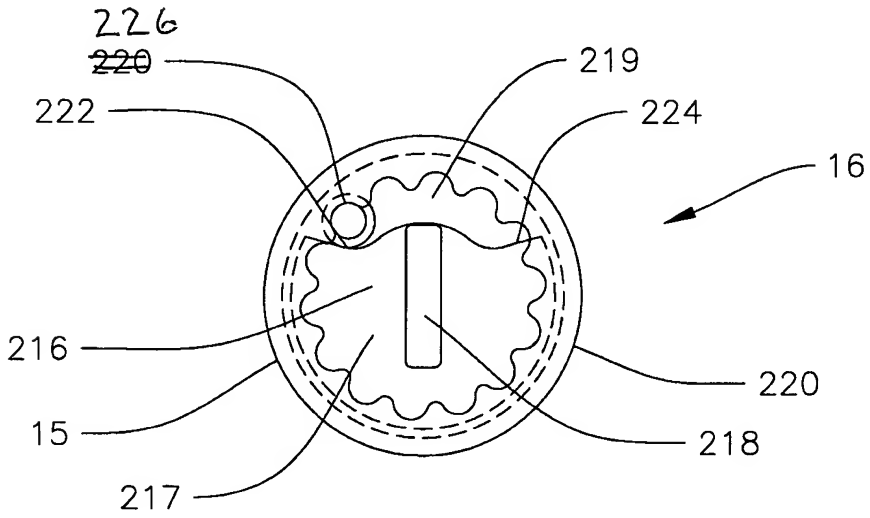

FIG. 44A

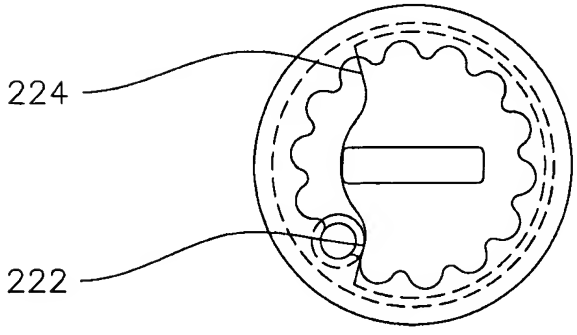

FIG. 44C